

Date: Tuesday, 4/17/2007 11:04:47 AM  
 User: Kim Johnston

## Process Sheet

Customer	CU-DAR001 Dart Helicopters Services		Drawing Name	315 SKIDTUBE EXT (BENT)	
Job Number	31826		Part Number	D2904B	
Estimate Number	11588		Drawing Number	D2904 REV <i>AB</i>	
P.O. Number			Project Number	N/A	
This Issue	4/17/2007	S.O. No.	Drawing Revision	<i>AB</i>	
Prsht Rev.	NC		Material		
First Issue	/ /	Type	Due Date	Qty:	6 Um: Each
Previous Run			4/30/2007		
Written By					
Checked & Approved By	<i>DP 07.04.17</i>				
Comment	Est. A 00.10.31 New Issue EC				

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	D2914142	3" Outer Tube LAMA	
Comment: Qty.: 1.0000 Each(s)/Unit Total : 6.0000 Each(s) 3" Outer Tube LAMA Pick: Qty Part Number Description Batch 1 D2914-142 Extrusion <i>B14097</i> <i>DP</i> <i>7-9-27</i> <i>⑥</i>			
2.0	BENDING	BENDING MACHINE	
Comment: BENDING MACHINE Bend on CNC Bending Machine as per Program 315B & dwg D2904 bending detail and Folio FT013 <i>DP 7-9-26</i>			
3.0	QC5	INSPECT WORK TO CURRENT STEP	
Comment: INSPECT WORK TO CURRENT STEP <i>7-9-26</i>			
4.0	PACKAGING 1	PACKAGING RESOURCE #1	
Comment: PACKAGING RESOURCE #1 Identify and Stock Location: <i>LG</i> <i>DP</i> <i>7-9-26</i> <i>⑥</i>			
5.0	QC21	FINAL INSPECTION/W/O RELEASE	
Comment: FINAL INSPECTION/W/O RELEASE <i>01.10.01</i>			

Job Completion



*W 07.10.01*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN	DRAWN BY	DART AEROSPACE USA, INC. BELLEVUE, WA	
CP	CP		
CHECKED	APPROVED	DRAWING NO. D2904	
		Rev. B SHEET 1 OF 3	
DATE 00.06.21		TITLE SA 315B SKIDTUBE ASSEMBLY	
		SCALE NTS	
A	99.09.09	NEW ISSUE	
B	00.06.21	CHANGED ANGLES FOR HOLES	

PARTS LIST:

Qty -041	Qty -042	Part Number	Description
X		D2904-041	LH SKIDTUBE ASSEMBLY
	X	D2904-042	RH SKIDTUBE ASSEMBLY
2	2	D2646	CAP
4	4	D2648-3	WEARPAD
1	1	D2648-5	WEARPAD
1	1	D2656-13	WEARSHOE
1	1	D2656-33	WEARSHOE
1		D2904-1	SKIDTUBE
	1	D2904-2	SKIDTUBE
1	1	D2905	WEB
1	1	D2907	WEARSHOE
11	11	D2909	CROSS BOLT SPACER
2	2	D2910	SKIDTUBE DOUBLER
2	2	D2911	SKIDTUBE DOUBLER
2	2	D2912	SKIDTUBE DOUBLER
50	50	ALS7-1032-130 or AKS4-1032-130 or ALS4-1032-130 or ALS7-1032-130	INSERT
54	54	AN960JD10L	WASHER
256	256	MS20601AD4W3	RIVET
54	54	MS27039-1-08	SCREW

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO 31826

RELEASED  
00.09.01



DESIGN	DRAWN BY	DART AEROSPACE USA, INC. BELLEVUE, WA
CHECKED	APPROVED	DRAWING NO. D2904
DATE		TITLE SA 315B SKIDTUBE ASSEMBLY
00.06.21		SCALE 1:20

GENERAL NOTES:

1. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
2. MAKE D2904-1 AND D2904-2 FROM D2914 EXTRUSION (INITIAL LENGTH = 142.0).
3. DAMAGE TOLERANCE ON BENDING:  
THERE SHOULD BE NO VISIBLE WRINKLES IN THE BEND FROM THE GROUND TO A HEIGHT OF 7 INCHES ABOVE THE GROUND. NO GOUGING IS ACCEPTABLE IN THE FLAT PORTION OF THE TUBE. GOUGES UP TO 0.020 ARE ACCEPTABLE IN THE BENT PORTION OF THE TUBE. TUBE O.D. SHOULD BE  $3.150 \pm 0.010$  IN THE FLAT PORTION OF THE TUBE. A MAXIMUM REDUCTION IN DIAMETER OF 0.150" IS ACCEPTABLE IN THE BENT PORTION OF THE TUBE.
4. ALL HOLES DRILLED ON CENTERLINES EXCEPT THOSE NOTED BY SECTION C-C.
5. DRILL #30 HOLES ( $\varnothing 0.128$  REF) TO LINE UP WITH  $\varnothing 0.128$  HOLES IN D2910/D2911/D2912 DOUBLERS. C'SINK  $\varnothing 0.239 \times 100^\circ$ .
6. BOND D2905 WEB INTO D2904-1 (OR D2904-2) OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015. ENSURE HOLES LINE-UP.
7. WELDING TO BE DONE PER DART QSI 004.
8. AFTER DRILLING, BENDING, AND INSTALLING WEB & DOUBLERS, PERFORM THE FOLLOWING FOR  $\varnothing 0.500$  HOLES ONLY:
  - CHAMFER HOLE  $0.050 \times 45^\circ$
  - INSERT D2909 SPACER (11 PLACES)
  - WELD INTO PLACE
  - GRIND FLUSH
  - DRILL OUT SPACER TO  $\varnothing 0.406$
9. FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
  - MINIMUM YIELD TENSILE STRENGTH = 35 ksi
  - MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi
10. FINISH:
  - ACID ETCH, ALODINE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2905 WEB AND D2910/D2911/D2912 DOUBLERS.
  - POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
  - BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
11. DRILL  $\varnothing 0.297$  FOR ALS7-1032-130 INSERT USING DT8395 BEFORE FINISH. INSTALL ALS7-1032-130 INSERTS AFTER FINISH.

SHOP COPY  
RETURN TO  
ENGINEERING

UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE

WORK ORDER  
NO. 31826

RELEASED  
00-04-01

Copyright © 2000 by DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

